

WHAT IS CLAIMED IS:

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1. A system for verifying spectral compatibility of a communication system that utilizes at least one digital subscriber line protocol, comprising:

a plurality of digital subscriber line access multiplexers; and

a communications channel coupling the plurality of digital subscriber line access multiplexers, each digital subscriber line access multiplexer operable to transmit and receive at least one message over the communications channel, the message comprising information related to a training of a digital subscriber line modem by a carrier.

2. The system of Claim 1, wherein the communications channel comprises a 10/100 base-T Ethernet connection.

3. The system of Claim 1, wherein each digital subscriber line access multiplexer comprises a 10/100 base-T Ethernet port.

4. The system of Claim 1, wherein each digital subscriber line access multiplexer is operable to transmit a training message over the communications channel, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem.

5. The system of Claim 4, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

5 6. The system of Claim 1, wherein each digital
subscriber line access multiplexer is operable to transmit
a distress message over the communications channel, the
distress message operable to indicate that the digital
subscriber line modem violates at least one compliance
guideline.

10 7. The system of Claim 6, wherein the distress
message comprises:
 a company identifier identifying the carrier that
trained the digital subscriber line modem; and
 a modem identifier identifying the digital subscriber
line modem.

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8. A digital subscriber line access multiplexer comprising:

a multiplexer operable to receive signals from a plurality of digital subscriber line connections and to aggregate the signals for transmission over a high-speed backbone line;

a controller operable to receive a first spectral management message, the spectral management message comprising information related to a training of a digital subscriber line modem over one of the subscriber lines; and

an interface coupled to the controller and operable to receive the spectral management message over a spectral management channel.

9. The digital subscriber line access multiplexer of Claim 8, wherein:

the controller is also operable to generate a second spectral management message; and

the interface is also operable to transmit the second spectral management message over the spectral management channel.

10. The digital subscriber line access multiplexer of Claim 8, wherein the controller is operable to receive a training message, the training message operable to indicate that a carrier has at least received a request to train the digital subscriber line modem.

11. The digital subscriber line access multiplexer of Claim 10, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

5 12. The digital subscriber line access multiplexer of
Claim 8, wherein the controller is operable to receive a
distress message, the distress message operable to indicate
that the digital subscriber line modem violates at least
one compliance guideline.

13. The digital subscriber line access multiplexer of
Claim 12, wherein the distress message comprises:

10 a company identifier identifying a carrier that
trained the digital subscriber line modem; and
a modem identifier identifying the digital subscriber
line modem.

15 14. The digital subscriber line access multiplexer of
Claim 8, wherein the controller is further operable to
generate a distress message using a previously-received
training message.

20 15. The digital subscriber line access multiplexer of
Claim 8, wherein the interface comprises a 10/100 base-T
Ethernet port.

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16. A method for verifying spectral compatibility of a communication system that utilizes at least one digital subscriber line protocol, comprising:

coupling a digital subscriber line access multiplexer to a spectral management channel; and

transmitting a spectral management message over the spectral management channel, the spectral management message comprising information related to a training of a digital subscriber line modem by a carrier.

17. The method of Claim 16, wherein the spectral management message comprises a training message, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem.

18. The method of Claim 17, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

19. The method of Claim 17, further comprising training the digital subscriber line modem.

20. The method of Claim 16, wherein the spectral management message comprises a distress message, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline.

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21. The method of Claim 20, wherein the distress message comprises:

a company identifier identifying the carrier that trained the digital subscriber line modem; and

5 a modem identifier identifying the digital subscriber line modem.

22. The method of Claim 20, further comprising identifying the carrier that trained the digital subscriber
10 line modem using a previously-received training message.

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23. A method for verifying spectral compatibility of a communication system that utilizes at least one digital subscriber line protocol, comprising:

coupling a digital subscriber line access multiplexer to a spectral management channel; and

receiving a spectral management message over the spectral management channel, the spectral management message comprising information related to a training of a digital subscriber line modem by a carrier.

24. The method of Claim 23, wherein the spectral management message comprises a distress message, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline.

25. The method of Claim 24, wherein the distress message comprises:

a company identifier identifying the carrier that trained the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

26. The method of Claim 24, further comprising retraining the digital subscriber line modem in response to receiving the distress message.

27. The method of Claim 23, wherein the spectral management message comprises a training message, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem.

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28. The method of Claim 27, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

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29. A system for verifying spectral compatibility of a communication system that utilizes at least one digital subscriber line protocol, comprising:

a computer readable medium; and

software encoded on the computer readable medium, the software operable when executed to transmit and receive a spectral management message over a spectral management channel, the spectral management message comprising information related to a training of a digital subscriber line modem by a carrier.

30. The system of Claim 29, wherein the spectral management message comprises a training message, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem.

31. The system of Claim 30, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

32. The system of Claim 28, wherein the spectral management message comprises a distress message, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline.

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33. The system of Claim 32, wherein the distress message comprises:

a company identifier identifying the carrier that trained the digital subscriber line modem; and

5 a modem identifier identifying the digital subscriber line modem.

34. The system of Claim 32, wherein the software is operable to identify the carrier that trained the digital subscriber line modem using a previously-received training message.

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35. A system for verifying spectral compatibility of a communication system that utilizes at least one digital subscriber line protocol, comprising:

means for receiving signals from a plurality of digital subscriber line connections and aggregating the signals for transmission over a high-speed backbone line;

means for generating and receiving at least one spectral management message, the spectral management message comprising information related to a training of a digital subscriber line modem over one of the subscriber lines; and

means for coupling the processing means to a spectral management channel.

36. The system of Claim 35, wherein the message comprises a distress message, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline.

37. The system of Claim 36, wherein the distress message comprises:

a company identifier identifying the carrier that trained the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

38. The system of Claim 35, wherein the message comprises a training message, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem.

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39. The system of Claim 38, wherein the training message comprises:

a company identifier identifying the carrier that has at least received the request to train the digital subscriber line modem; and

a modem identifier identifying the digital subscriber line modem.

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